

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF TRANSMITTAL
OF COPIES OF TRANSLATION
OF THE INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY
(CHAPTER I OR CHAPTER II
OF THE PATENT COOPERATION TREATY)
(PCT Rules 44bis.3(c) and 72.2)

To:

EHARA, Syogo
Ehara Patent Office
15-26, Edobori 1-chome
Nishi-ku, Osaka-shi
Osaka 5500002
JAPON

RECEIVED
EHARA PATENT OFFICE
DATE

OCT. 10. 2006

Date of mailing (*day/month/year*)
28 September 2006 (28.09.2006)

Applicant's or agent's file reference
FP04-062CT

IMPORTANT NOTIFICATION

International application No.
PCT/JP2004/019473

International filing date (*day/month/year*)
17 December 2004 (17.12.2004)

Applicant

NTN CORPORATION et al

1. Transmittal of the translation to the applicant.

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference FP04-062CT	FOR FURTHER ACTION		See item 4 below
International application No. PCT/JP2004/019473	International filing date (<i>day/month/year</i>) 17 December 2004 (17.12.2004)	Priority date (<i>day/month/year</i>) 13 February 2004 (13.02.2004)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant NTN CORPORATION			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input checked="" type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Date of issuance of this report 19 September 2006 (19.09.2006)
	Authorized officer <div style="text-align: right;">Masashi Honda</div> e-mail: pt08@wipo.int

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing
(day/month/year)

Applicant's or agent's file reference

FP04-062CT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2004/019473

International filing date (day/month/year)

17.12.2004

Priority date (day/month/year)

13.02.2004

International Patent Classification (IPC) or both national classification and IPC

Applicant

NTN CORPORATION

1. This opinion contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the opinion |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input checked="" type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Authorized officer

Facsimile No.

Telephone No.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2004/019473

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language
_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/019473

Box No. IV Lack of unity of invention

1. ☐ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:
- ☐ paid additional fees
- ☐ paid additional fees under protest
- ☐ not paid additional fees
2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with
- ☒ not complied with for the following reasons:

The "special technical feature" of the invention of claim 1 relates to the point that "the ratio $r1$ (PCDBALL / DBALL) of the pitch circle diameter of the ball (PCDBALL) and the diameter of the ball (DBALL) is in the range $1.5 \leq r1 \leq 4.0$," the "special technical feature" of the invention of claim 8 relates to "a constant velocity universal joint in which a ball track opens in the shape of a wedge towards one direction of the axial direction, wherein a pocket of a holding receptacle has a corner radius section, and the ratio (R/d) of the curvature radius R of the corner radius section to the diameter d of the torque transmission ball is $R/d \geq 0.22$." These inventions are not in a technical relationship including one or more identical or corresponding special technical features, and therefore are not found to be so linked as to form a single general inventive concept.

4. Consequently, this opinion has been established in respect of the following parts of the international application:

☒ all parts

☐ the parts relating to claims Nos. _____

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2004/019473

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1-10	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO
2. Citations and explanations:			
<p>Document 1: JP 2003-130082 A (NTN Toyo Bearing Co Ltd), 08 May 2003, claim 1, Fig. 1, paragraph 0019</p> <p>Document 2: JP 9-317783 A (NTN Toyo Bearing Co Ltd), 09 December 1997, Table 1, paragraph 0022</p> <p>Document 3: JP 2000-055069 A (NSK Ltd), 22 February 2000, box 8, lines 12-24</p> <p>Document 4: JP 2002-013544 A (NTN Toyo Bearing Co Ltd), 18 January 2002, paragraph 0011, claim 5</p> <p>Document 5: JP 11-182569 A (NTN Toyo Bearing Co Ltd), 06 July 1999, claim 1, Fig. 1</p> <p>Document 6: JP 9-177813 A (NTN Toyo Bearing Co Ltd), 11 July 1997, claim 1, Fig. 1</p> <p>The inventions of claims 1-3 do not appear to involve an inventive step over document 1 and document 2 cited in the ISR. A person skilled in the art could appropriately set r1, r2, and R1 in the invention described in document 1 to the values (range) described in document 2.</p> <p>The invention of claim 4 does not appear to involve an inventive step over documents 1-3 cited in the ISR. Document 3 describes setting the contact angle to approximately 40°, and it would be easy for a person skilled in the art to apply the invention described in document 1 to the technology described in document 3.</p> <p>The inventions of claims 5 and 6 do not appear to involve an inventive step over documents 1-4 cited in the ISR. A person skilled in the art could appropriately set R/d in the invention described in document 1 to the range of values described in document 4.</p>			

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/019473

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

The invention of claim 7 does not appear to involve an inventive step over documents 1-4 cited in the ISR. Document 4 describes that the lengths in the direction around the windows of the plurality of pockets corresponding to the plurality of track grooves are all equal, and it would be easy for a person skilled in the art to apply the technology described in document 4 to the invention described in document 1.

The inventions of claims 8 and 9 do not appear to involve an inventive step over document 1 and document 4 cited in the ISR. A person skilled in the art could appropriately set R/d in the invention described in document 1 to the range of values described in document 4.

The invention of claim 10 does not appear to involve an inventive step over document 1 and document 4 cited in the ISR. Document 4 describes that the lengths in the direction around the windows of the plurality of pockets corresponding to the plurality of track grooves are all equal, and it would be easy for a person skilled in the art to apply the technology described in document 4 to the invention described in document 1.